South Shore of Staten Island, New York

Summer 2023

US Army Corps of Engineers
New York District
BUILDING STRONG ®

Project Area Key Facts

- Flood-prone, high risk, low-lying area, low-capacity storm sewers
- Nearly 7,300 structures; over 30,000 people

Critical infrastructure:
Wastewater Plant; Staten Island Hospital; Fire/police stations; schools & senior centers

Dec '92 Nor'easter

Oct 2012 Sandy

Hurricane Sandy

- Water levels peaked at +12.5 ft NAVD
- Flooding depths over 10 ft
- 4 ft higher than prior record
- 24 Staten Island deaths
- 43 total in New York City
- 80% structures damaged in project area
- Over $1B in damages

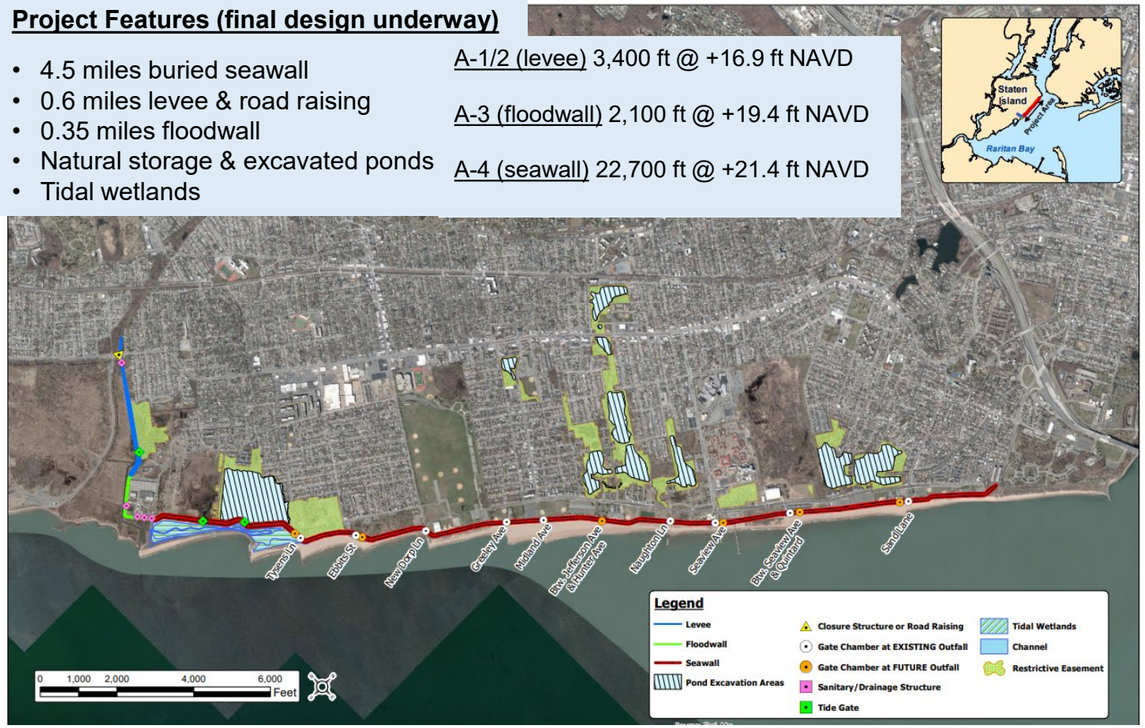
Project Features (final design underway)

- 4.5 miles buried seawall
- 0.6 miles levee & road raising
- 0.35 miles floodwall
- Natural storage & excavated ponds
- Tidal wetlands

A-1/2 (levee) 3,400 ft @ +16.9 ft NAVD

A-3 (floodwall) 2,100 ft @ +19.4 ft NAVD

A-4 (seawall) 22,700 ft @ +21.4 ft NAVD



Hurricane Sandy Inundation

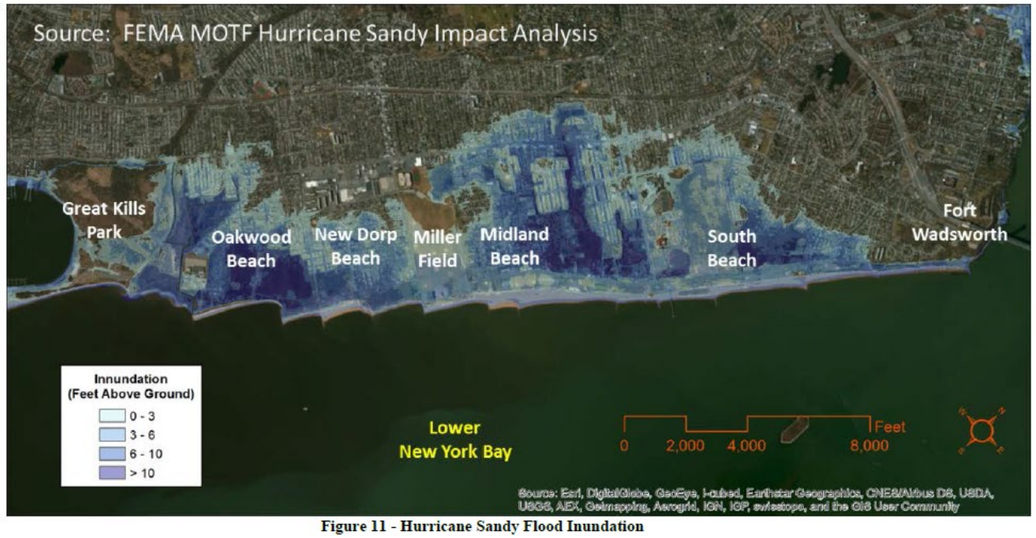
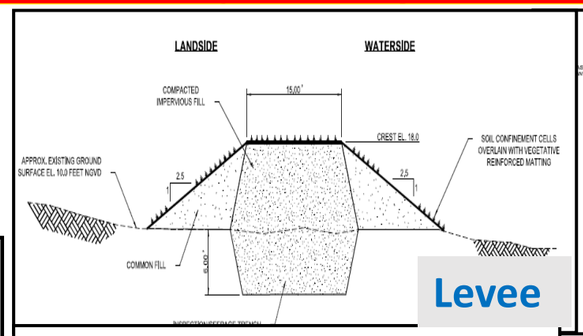


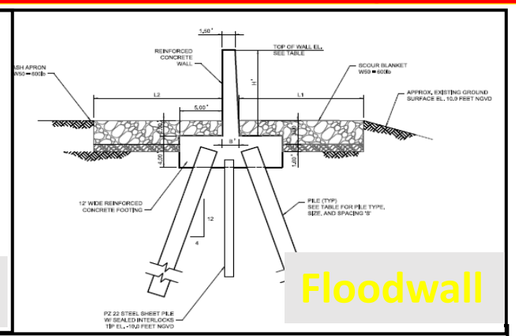
Figure 11 - Hurricane Sandy Flood Inundation

Typical Project Cross-Sections

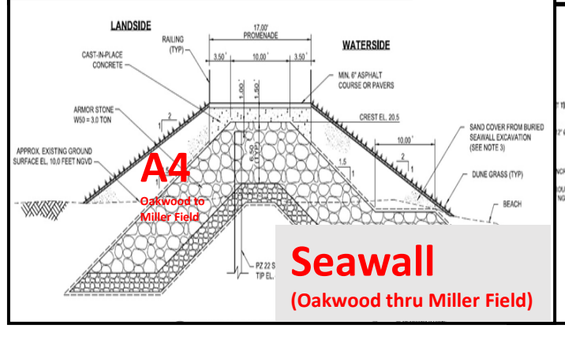
Several project design refinements are currently underway



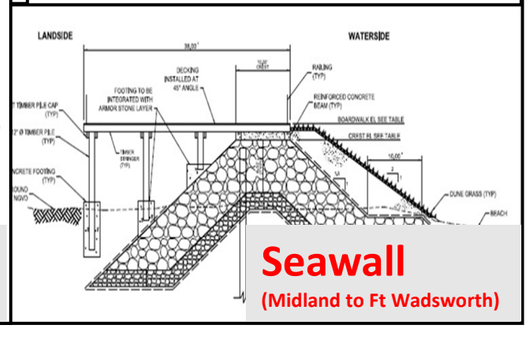
Levee



Floodwall

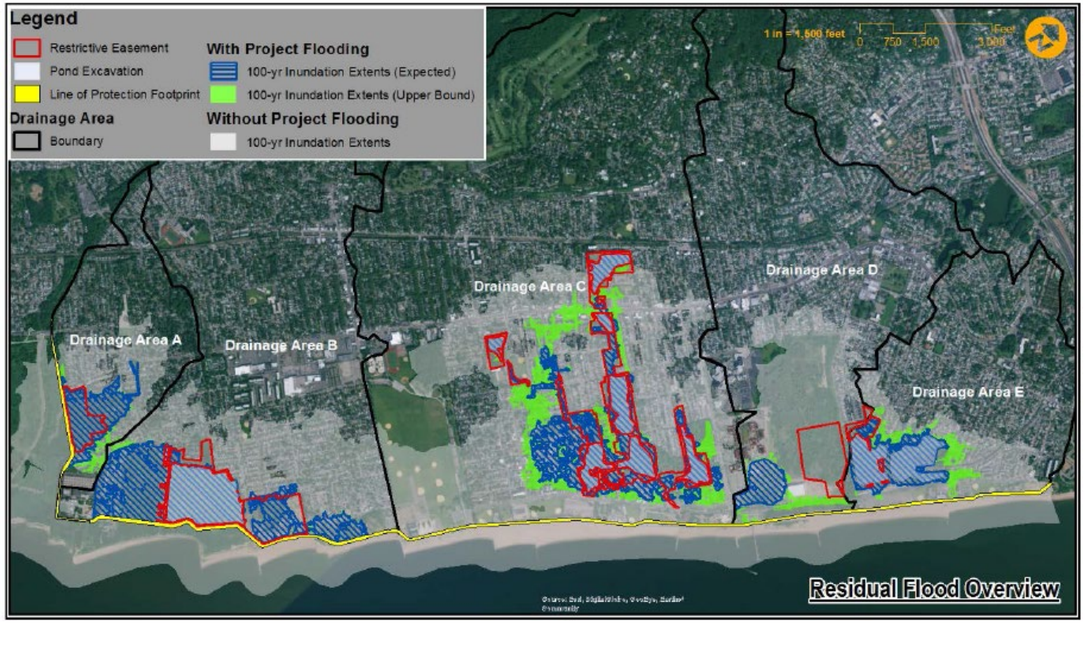


Seawall
(Oakwood thru Miller Field)



Seawall
(Midland to Ft Wadsworth)

Residual Flooding After Project Construction



Project Renderings (Before & After)

Existing Boardwalk
South Beach Area looking South

Buried Seawall with New Boardwalk
South Beach Area looking South

Existing Promenade
Midland Beach Area looking North

Buried Seawall with NEW Boardwalk
Midland Beach Area looking North

- ✓ Project is technically feasible, economically justified, environmentally acceptable
- ✓ Federally funded through Public Law 113-2
- ✓ Assistant Secretary of Army approved Final Feasibility Report, EIS, Record Of Decision, Director's Report, with Congressional notification, Dec 2016
- ✓ 3-party agreement with Corps, NYS (sponsor), NYC (party) executed 15 Feb 2019
- ✓ Initial Construction cost-shared 65% Federal, 35% Non-Federal
- ✓ Project Operation & Maintenance is State/City of New York 100% responsibility

- ✓ Residual Risk – project annual exceedance probability is 0.3% (300-yr event)
- ✓ Resiliency – allows emergency response in previously flooded areas; accelerated recovery
- ✓ Reliability – proven engineering solution to withstand multiple storms
- ✓ Adaptability - project can be modified in future to address sea level rise, if required

- ✓ Design Phase of entire project is currently underway: Surveys/mapping, utilities, geotechnical, cultural investigations, physical modeling, interior drainage modeling, construction contract designs, plans, specifications, various contractual packages

- ✓ Coordination is underway with various sponsors/stakeholders: Corps of Engineers, State of New York, Gov Office, City of New York, Mayor Office, City Parks/DEP/DOT, Boro Pres Office, National Park Service, FEMA, Congressional and local interests

- ✓ ***Design refinements, cost updates and estimated schedule updates for all project construction contracts are currently underway, including significant coordination with the State and City of New York to finalize specific project design details***

Estimated Project Cost (*Updated costs pending*)

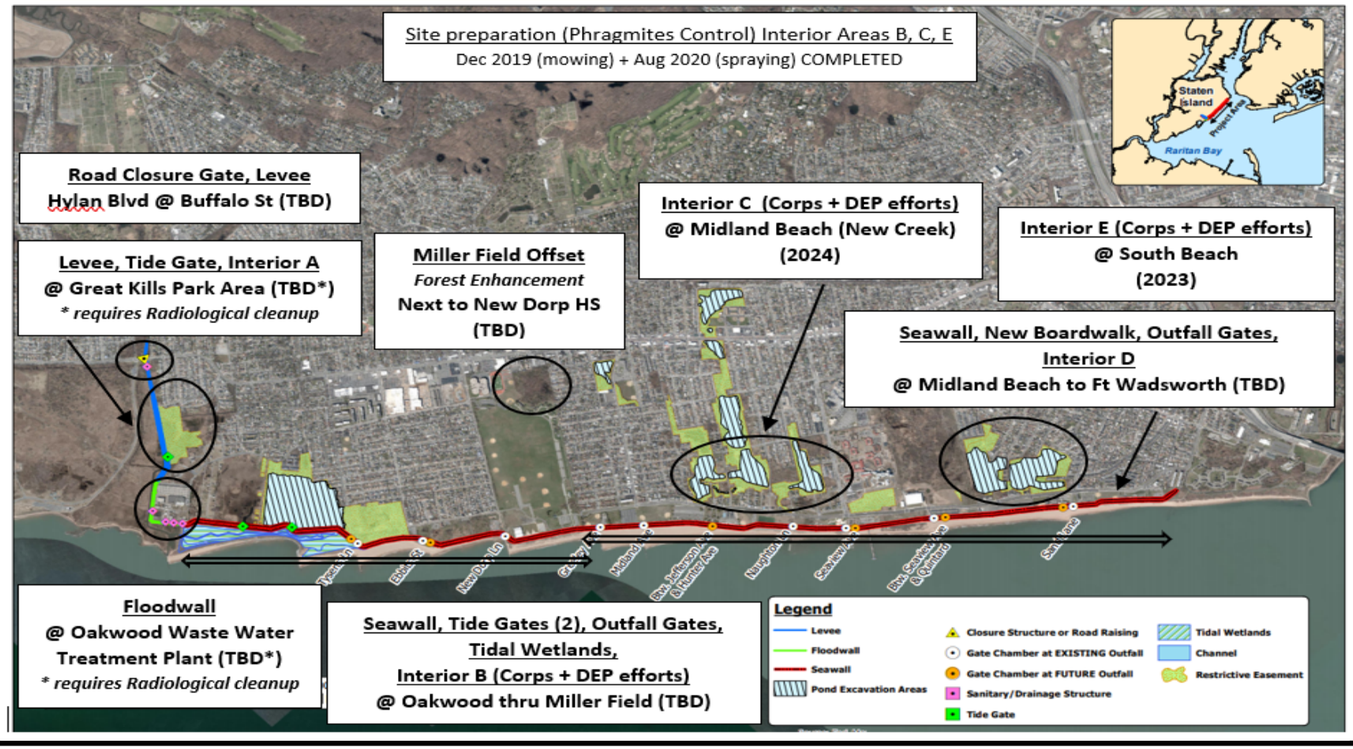
Initial Estimated Construction Cost	**$615,231,000**
Project Cost-share – Federal (65%)	**$399,900,150**
Project Cost-share – Non Federal (35%)	**$215,330,850**
Annual Operation & Maintenance (Non Federal)	$679,000

Estimated Project Schedule

Project Partnership Agreement Executed between Corps, NYS, NYC	15 Feb 2019
Phragmites control efforts complete Interior Areas B, C, E	2019 (mow), 2020 (spray)
Estimated Start Construction	***Interior E (2023)*** ***Interior C (2024)***
Estimated Project Total Completion	***Schedule is under revision***

Anticipated Contract Breakouts with Estimated Contract Awards

Several design, cost & schedule revisions are now underway



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NEW YORK STATE Department of Environmental Conservation

NYC

NYC Environmental Protection

NYC Parks

NATIONAL PARK SERVICE

NEW YORK CITY DOT

US Army Corps of Engineers (website)
http://www.nan.usace.army.mil/Missions/Civil-Works/Projects-in-New-York/South-Shore-of-Staten-Island/